

ABSTRACT OF THE DISCLOSURE

The invention concerns a method of forming a layer of metal on a substrate and fill the via with high throughput. A layer of metal can be formed on a substrate using sequentially a cold deposition step, a slow hot deposition step and a rapid hot deposition step. The cold deposition step need only be performed for a time sufficient to deposit a seed layer of metal over the entire surface on which the metal layer is to be formed. In the slow hot deposition step, further metal is deposited at a low power allowing for surface diffusion of the deposited metal, which is then followed by a rapid hot deposition of metal under bulk diffusion conditions.

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